

DECLARATION AND POWER OF ATTORNEY - PATENT APPLICATION

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to our names below; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION IMPLANTATION DEVICE

the specification of which is attached hereto. If not attached hereto,

the specification was filed on April 2, 2001 as  
United States Application Number 09/822,864;

and/or

the specification was filed on \_\_\_\_\_  
as PCT International Application Number \_\_\_\_\_  
and was amended under PCT Article 19 on \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 (a)-(3) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s) Priority Claimed

_____ (Number)	_____ (Country)	_____ Month/Day/Year Filed	_____ Yes	_____ No
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All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More Than 12 Months (6 Months for Designs) Prior To The Filing Date of This Application:

Country	Application No.	Date of Filing	(Month/Date/Year)
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_____	_____	_____	_____
_____	_____	_____	_____

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the National or PCT International filing date of this application.

_____ (Application Number)	_____ (Filing Date)	_____ (Status-patented, pending, abandoned)
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_____ (Application Number)	_____ (Filing Date)	_____ (Status-patented, pending, abandoned)
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I hereby appoint as principal attorneys:

ROBERT W. MULCAHY	(Reg. No. 25,436)
LAWRENCE EDELMAN	(Reg. No. 25,226)
MICHAEL B. EINSCHLAG	(Reg. No. 29,301)
RAYMOND KAM-ON KWONG	(Reg. No. 37,165)
PETER J. SGARBOSSA	(Reg. No. 25,610)
MICHAEL L. SHERRARD	(Reg. No. 28,041)
DONALD VERPLANCKEN	(Reg. No. 33,217)

LESLIE WEISE	(Reg. No. 36,305)
JAMES C. WILSON	(Reg. No. 35,412)
TERRELL C. BIRCH	(Reg. No. 19,382)
RAYMOND C. STEWART	(Reg. No. 21,066)
JOSEPH A. KOLASCH	(Reg. No. 22,463)
JAMES M. SLATTERY	(Reg. No. 28,380)
BERNARD L. SWEENEY	(Reg. No. 24,448)
MICHAEL K. MUTTER	(Reg. No. 29,680)
CHARLES GORENSTEIN	(Reg. No. 29,271)
GERALD M. MURPHY, JR.	(Reg. No. 28,977)
LEONARD R. SVENSSON	(Reg. No. 30,330)
TERRY L. CLARK	(Reg. No. 32,644)
ANDREW D. MEIKLE	(Reg. No. 32,868)
MARC S. WEINER	(Reg. No. 32,181)
JOE MCKINNEY MUNCY	(Reg. No. 32,334)
C. JOSEPH FARACI	(Reg. No. 32,350)
JOHN A. CASTELLANO	(Reg. No. 35,094)

to prosecute and transact all business in the Patent and Trademark Office connected with this application and any related United States and International applications. Please direct all communications to:

Robert W. Mulcahy,  
Applied Materials, Inc.  
Box 450A,  
Santa Clara, CA 95052.

**Please direct telephone calls to Robert W. Mulcahy at (408) 563 2726.**

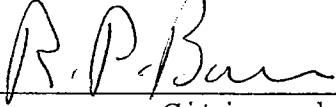
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

=====

Given Name	Family Name	Inventor's Signature	Date
ROBERT JOSEPH	LEDoux	<i>Robert J. Ledoux</i>	4/6/01
Residence		Citizenship	
Massachusetts, United States of America		United States of America	
Post Office Address			

28 Lovers Lane, Harvard, Massachusetts 01451,  
United States of America

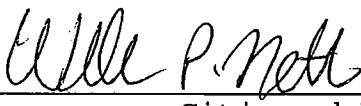
=====

Given Name	Family Name	Inventor's Signature	Date
BOISSEAU	RAYMOND PAUL		4/6/01
Residence		Citizenship	

Massachusetts, United States of America	United States of America
--	--------------------------

Post Office Address

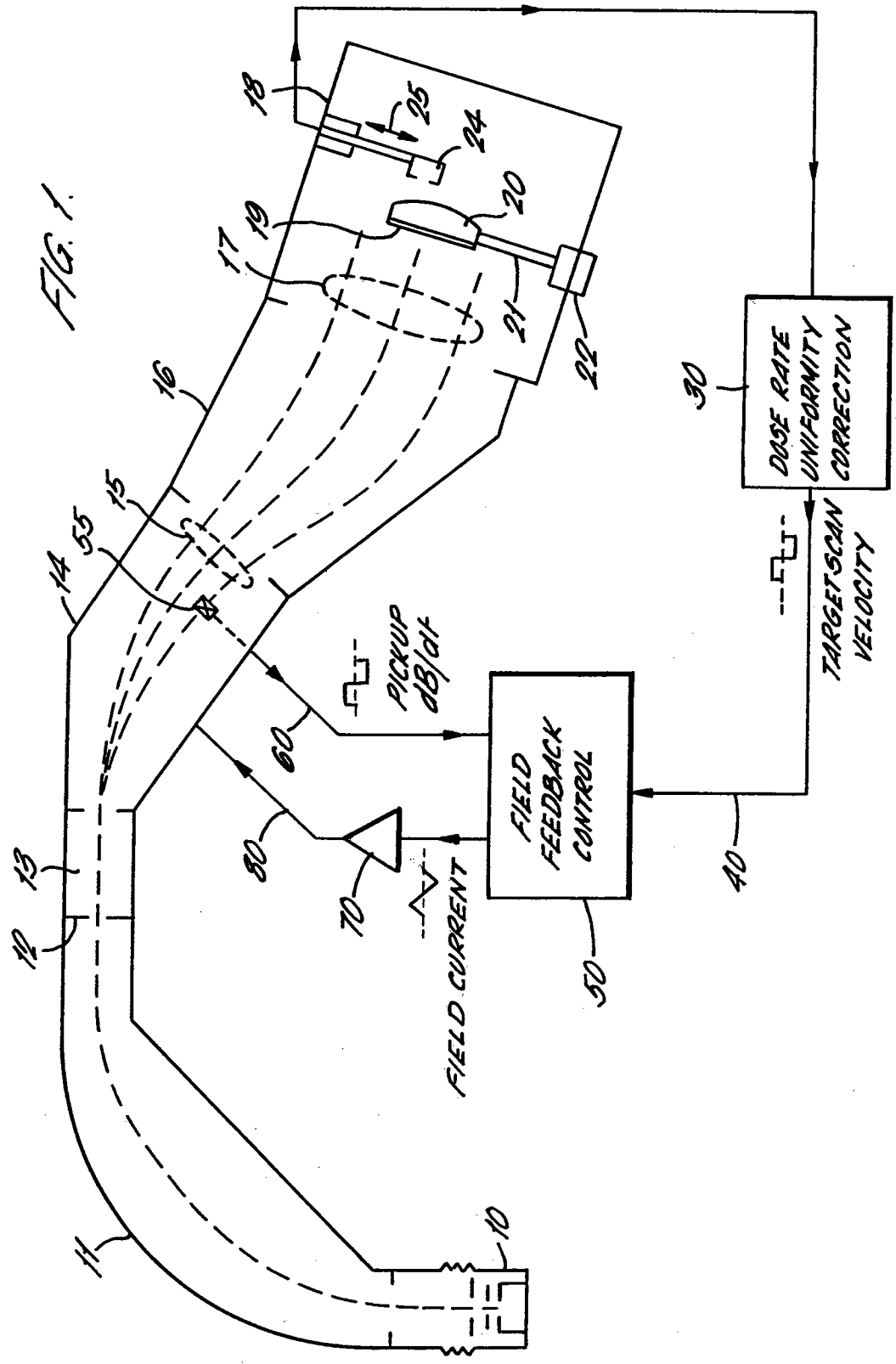
259 Bishops Forest Drive, Waltham, Massachusetts 02452,  
United States of America  
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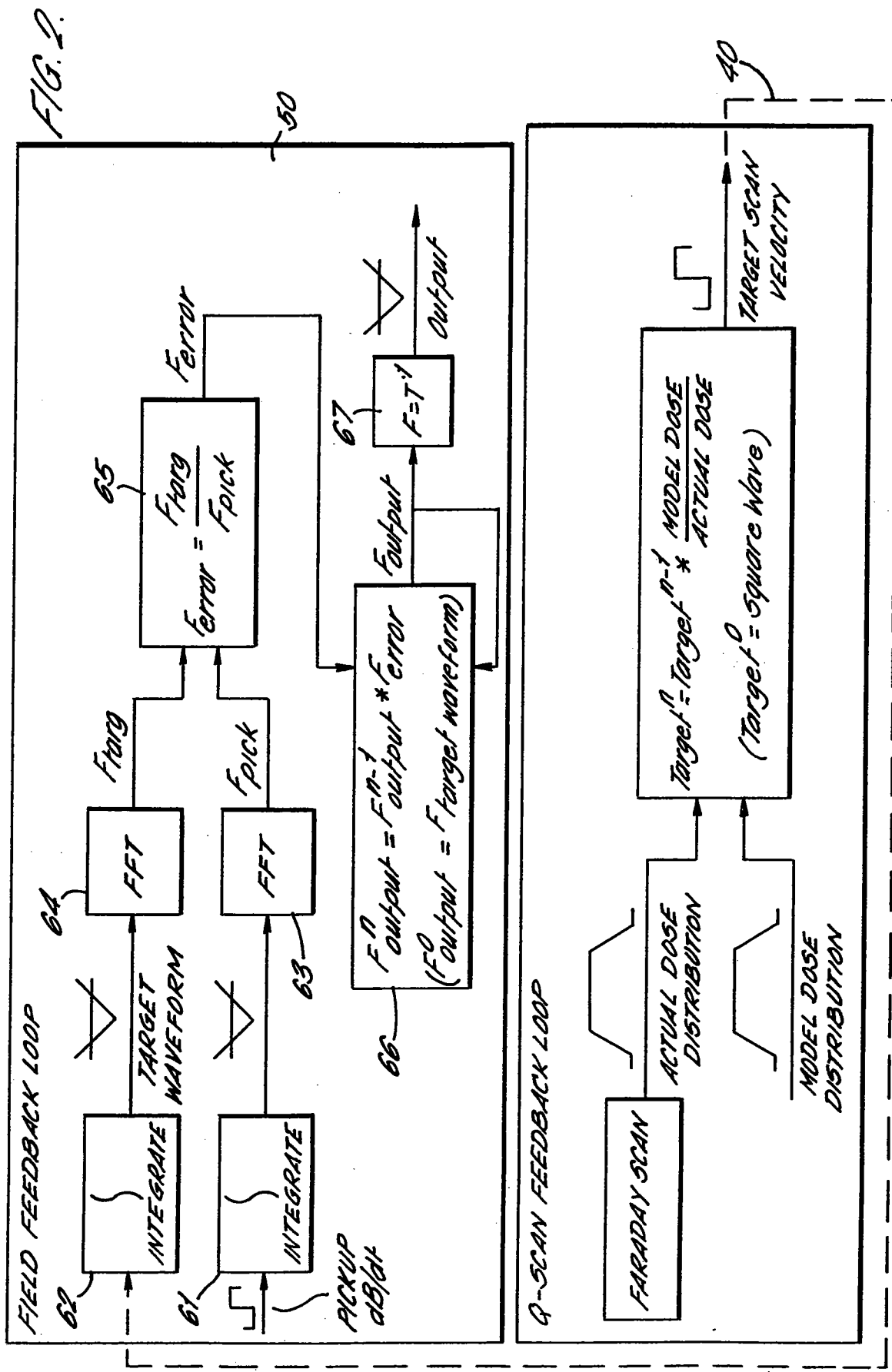
Given Name	Family Name	Inventor's Signature	Date
NETT	WILLIAM PHILIP		4/6/01
Residence		Citizenship	

Massachusetts, United States of America	United States of America
--	--------------------------

Post Office Address

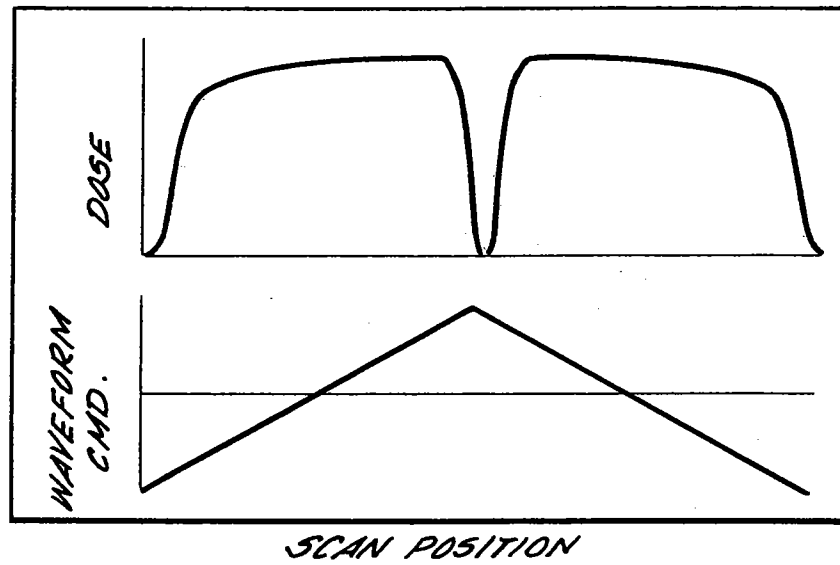
159 Bishops Forest Drive, Waltham, Massachusetts 02452  
United States of America  
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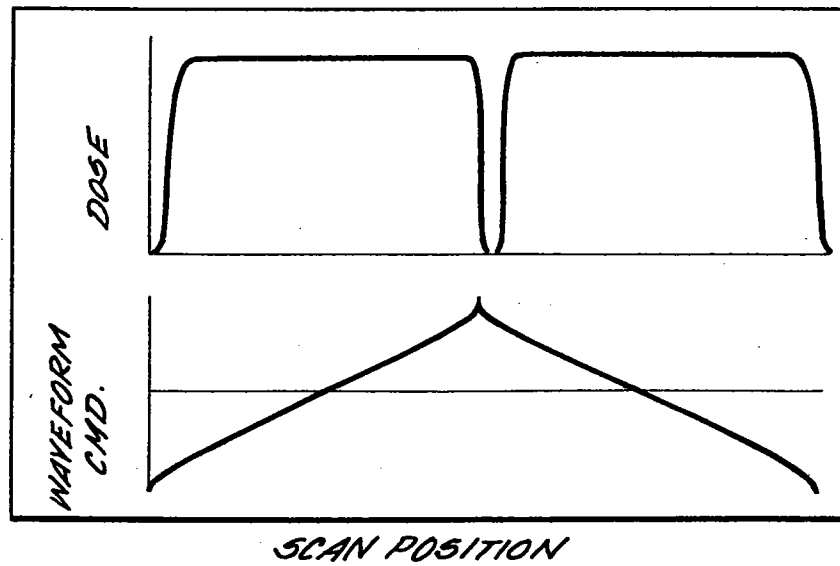
*FIG. 3a.*

*BEFORE CORRECTION*



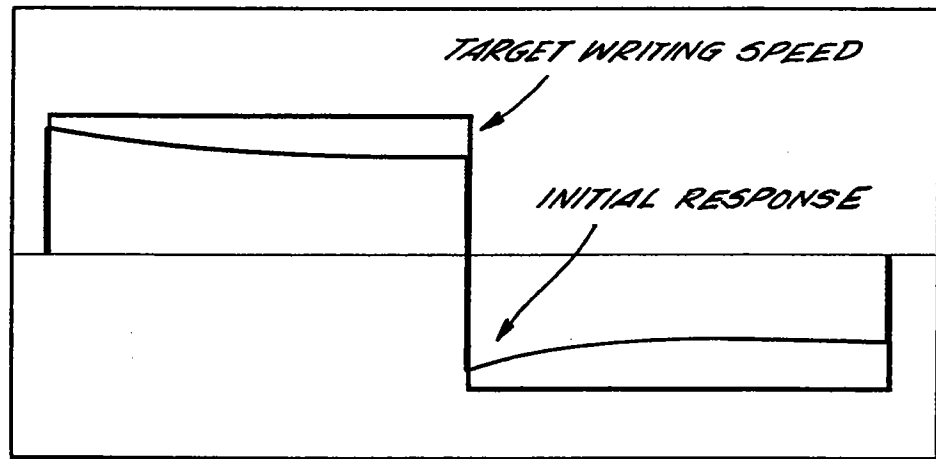
*FIG. 3b.*

*AFTER CORRECTION*



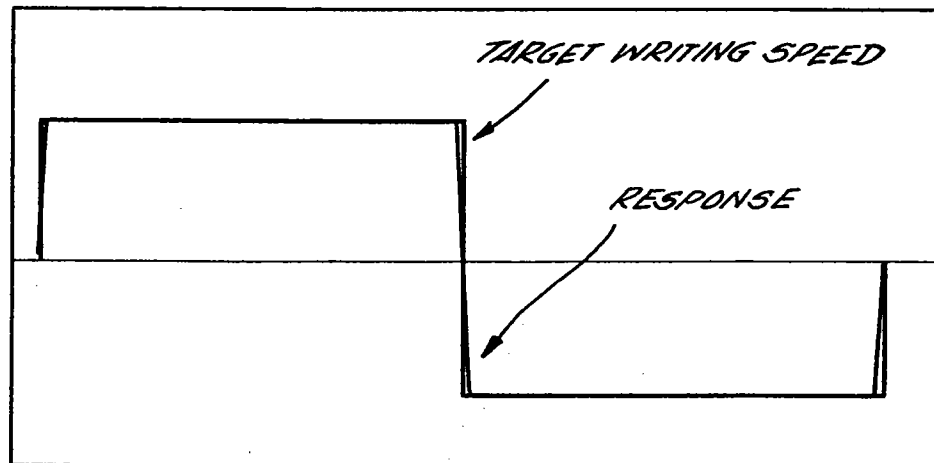
*FIG. 4a.*

*BEFORE CORRECTION*



*FIG. 4b.*

*AFTER CORRECTION*





Box Missing Parts  
Assistant Commissioner of Patents and Trademarks  
Washington, D. C. 20231

Title METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION ...

Inventor Raymond P BOISSEAU et al

Serial No 09/822,864

Filed 02AP2001

Atty Dkt No 004600 USA IMPLANT/ORION

ENCLOSED:

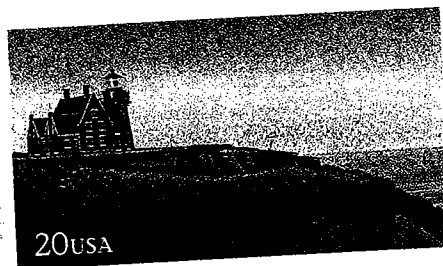
Response to Notice to File Missing Parts  
Declaration and Power of Attorney .

PTO-1533

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Substitute Drawings (4 sheets)

LE: Mailed: July 31, 2001



Patent Counsel  
Applied Materials, Inc.  
Legal Department  
PO Box 450A  
Santa Clara, CA 95052

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08-15-2001

FORM PTO-1595  
(Modified)4600/IMPLANT/ORION  
U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

To the Honorable Commissioner of Pat

101812302

Attached original documents or copy thereof

## 1. Name of conveying party(ies):

08/07/01

EXECUTION DATE

Robert J. LEDOUX..... 7/17/01  
William P. NETT..... 7/6/01  
Raymond P. Boisseau..... 7/20/01Additional name(s) of conveying part(ies) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name

Other \_\_\_\_\_

Execution Date: SEE ABOVE

## 2. Name and address of receiving party(ies):

Name: Applied Materials, Inc.

Internal Address: Legal Affairs Department

Street Address: P.O. Box 450-A

City: Santa Clara State CA Zip 95052

Additional Name(s) & address(es) attached? ☐ Yes ☒ No

## 4. Application number(s) or patent Number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

## A. Patent Application No.(s)

Serial No. 09/822,864 - Filing Date: 4/2/01

Additional Numbers attached? ☐ Yes ☒ No

## B. Patent No.(s)

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: PATENT COUNSEL

Internal Address: Applied Materials, Inc.

Legal Affairs Dept.

Street Address: P.O. Box 450-A

City: Santa Clara State: CA ZIP: 95052

## 6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$40.00

☐ Enclosed☒ Authorized to be charged to deposit account

## 8. Deposit account number:

50-1074

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and any attached copy is a true copy of the original document.

Lawrence Edelman, Reg. No. 25,226

Name of Person Signing

Signature

Date

10. Total number of pages comprising cover sheet, attachments, and document: 7

OMB No. 0651-0011 (exp. 4/94)

Mail documents to be recorded with the required cover sheet information to:  
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Washington, D.C. 20231

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

## 1. Name of conveying party(ies):

## EXECUTION DATE

Robert J. LEDOUX..... 7/17/01  
William P. NETT..... 7/6/01  
Raymond P. Boisseau..... 7/20/01

Additional name(s) of conveying part(ies) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name

Other \_\_\_\_\_

Execution Date: SEE ABOVE

## 2. Name and address of receiving party(ies):

Name: Applied Materials, Inc.Internal Address: Legal Affairs DepartmentStreet Address: P.O. Box 450-ACity: Santa Clara State: CA Zip: 95052Additional Name(s) & address(es) attached? ☐ Yes ☒ NoCOMPUTER ENTERED  
AUG - 8 2001

## 4. Application number(s) or patent Number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

## A. Patent Application No.(s)

Serial No. 09/822,864 - Filing Date: 4/2/01

Additional Numbers attached? ☐ Yes ☒ No

## B. Patent No.(s)

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: PATENT COUNSELInternal Address: Applied Materials, Inc.Legal Affairs Dept.Street Address: P.O. Box 450-ACity: Santa Clara State: CA ZIP: 950526. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$40.00

☐ Enclosed☒ Authorized to be charged to deposit account

## 8. Deposit account number:

50-1074

(Attach duplicate copy of this page if paying by deposit account)

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## 9. Statement and signature.

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Lawrence Edelman, Reg. No. 25,226

Name of Person Signing

Signature

Date

10. Total number of pages comprising cover sheet, attachments, and document: 7

OMB No. 0651-0011 (exp. 4/94)

Mail documents to be recorded with the required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

## **ASSIGNMENT**

---

WHEREAS, I, **ROBERT JOSEPH LEDOUX**

of **28 Lovers Lane, Harvard, Massachusetts 01451, United States of America**

have invented certain new and useful improvements as described in an application entitled

**METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION IMPLANTATION DEVICE**

which is the subject of U.S. Patent Application No. **09/822,864** filed **2nd April, 2001**; and

WHEREAS, **Applied Materials, Inc.**

a corporation organized and existing under the laws of **Delaware**  
and having offices at **3050 Bowers Avenue, Santa Clara, California 95054-3299, United States of America**

("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, and any and all Letters Patent or similar legal protection, in the United States or any other country, to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, corresponding applications in the United States or any other country, all Letters Patents or similar legal protection issuing thereon, and all rights and benefits under any applicable treaty or

Attorney Docket No. : 004600/USA/TCG/ORION/LE

convention; and I authorize the Commissioner of Patents and Trademarks of the United States or foreign equivalent thereof to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all countries, where appropriate.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries.

Robert J. Ledoux  
(Signature of Inventor)

Date: 7/17/01

Witness:

Signature William P. Nett

Name: William P. NETT

Address: 159 BISHOPS FOREST DR.  
WALTHAM, MA 02452

Witness:

Signature R. P. Boissac

Name: Raymond Paul Boissac

Address: 259 Bishop Forest Dr  
Waltham MA 02452

## **ASSIGNMENT**

---

WHEREAS, I, **RAYMOND PAUL BOISSEAU**

of **259 Bishops Forest Drive, Waltham, Massachusetts 02452, United States of America**

have invented certain new and useful improvements as described in an application entitled

**METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION IMPLANTATION DEVICE**

which is the subject of U.S. Patent Application No. **09/822,964** filed **2nd April, 2001**; and

WHEREAS, **Applied Materials, Inc.**

a corporation organized and existing under the laws of **Delaware**  
and having offices at **3050 Bowers Avenue, Santa Clara, California 95054-3299, United States of America**

("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, and any and all Letters Patent or similar legal protection, in the United States or any other country, to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, corresponding applications in the United States or any other country, all Letters Patents or similar legal protection issuing thereon, and all rights and benefits under any applicable treaty or

Attorney Docket No. : 004600/USA/TCG/ORION/LE

convention; and I authorize the Commissioner of Patents and Trademarks of the United States or foreign equivalent thereof to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all countries, where appropriate.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries.

R. P. Ben

(Signature of Inventor)

Date: July 20, 2001

Witness:

Signature Robert J. Ledoux

Name: ROBERT J. LEDOUX

Address: 28 LOVERS LANE  
HARVARD, MA

Witness:

Signature William P. Nett

Name: WILLIAM P. NETT

Address: 159 BISHOP FOREST DR.  
WALTHAM, MA 02452

## **ASSIGNMENT**

---

WHEREAS, I, **WILLIAM PHILIP NETT**

**of 159 Bishops Forest Drive, Waltham, Massachusetts 02452, United States of America**

have invented certain new and useful improvements as described in an application entitled

**METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION IMPLANTATION DEVICE**

which is the subject of U.S. Patent Application No. **09/822,964** filed **2nd April, 2001**; and

WHEREAS, **Applied Materials, Inc.**

a corporation organized and existing under the laws of **Delaware**  
and having offices at **3050 Bowers Avenue, Santa Clara, California 95054-3299, United States of America**

("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, and any and all Letters Patent or similar legal protection, in the United States or any other country, to be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, corresponding applications in the United States or any other country, all Letters Patents or similar legal protection issuing thereon, and all rights and benefits under any applicable treaty or



Attorney Docket No. : 004600/USA/TCG/ORION/LE

convention; and I authorize the Commissioner of Patents and Trademarks of the United States or foreign equivalent thereof to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all countries, where appropriate.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries.

William P. Nott  
(Signature of Inventor)

Date: July 6, 2001

Witness:

Signature Andrew Dart

Name: ANDREW DART

Address: 50 SARGENT RD  
SWAMPSCOTT MA 01907

Witness:

Signature Mark A. Hanright

Name: MARK A. HANRIGHT

Address: 34 TREMONT ST.  
CAMBRIDGE, MA.  
02139

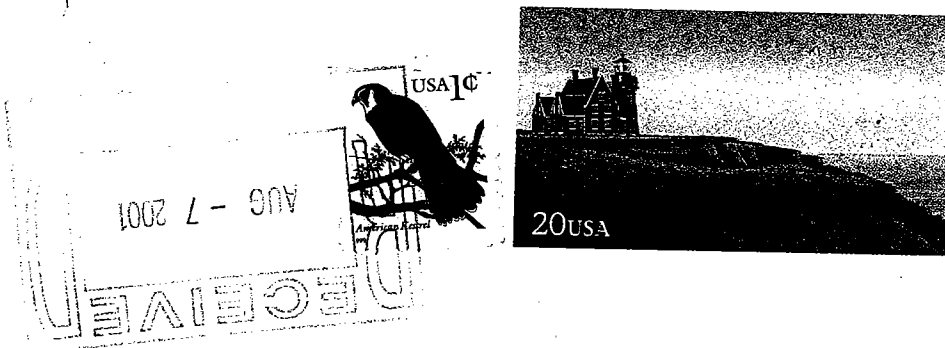
Assistant Commissioner For Patents and Trademarks  
Box Assignment  
Washington, D. C. 20231

Title METHOD AND SYSTEM FOR CONTROLLING  
BEAM SCANNING IN AN ION IM  
Inventor Raymond P BOISSEAU et al  
Serial No 09/822,864  
Filed 02AP2001  
Atty Dkt No 004600 USA IMPLANT/ORION

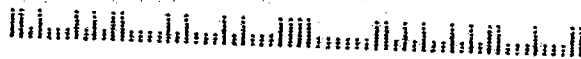
ENCLOSED:

Request for recordal of Assignment in duplicate  
Assignment to APPLIED MATERIALS, INC.  
Assignment Recordation Cover Sheet (PTO 1595)  
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LE: Mailed: August 1, 2001



Patent Counsel  
Applied Materials, Inc.  
Legal Department  
PO Box 450A  
Santa Clara, CA 95052





UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
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Washington, D.C. 20231

OCTOBER 15, 2001

PTAS

APPLIED MATERIALS, INC.  
LAWRENCE EDELMAN  
PATENT COUNSEL, LEGAL AFFAIRS DEPT.  
PO BOX 450-A  
SANTA CLARA, CA 95052



\*101812302A\*

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RECORDATION DATE: 08/07/2001

REEL/FRAME: 012061/0276

NUMBER OF PAGES: 7

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

LEDOUX, ROBERT J.

DOC DATE: 07/17/2001

ASSIGNOR:

NETT, WILLIAM P.

DOC DATE: 07/06/2001

ASSIGNOR:

BOISSEAU, RAYMOND P.

DOC DATE: 07/20/2001

ASSIGNEE:

APPLIED MATERIALS, INC.  
P.O. BOX 450-A  
LEGAL AFFAIRS DEPARTMENT  
SANTA CLARA, CALIFORNIA 95052

SERIAL NUMBER: 09822864

FILING DATE: 04/02/2001

PATENT NUMBER:

ISSUE DATE:

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